Packaging Samba for Debian

Christian Perrier, Steve Langášek, Noèl Köthe, Jelmer Vernooij, Mathieu Parent, Luk Claes

Samba eXPerience 2009, Göttingen, Germany
Introduction

Debian development model

Workflow for samba packaging

Work involved in maintaining packages
Introduction
Debian highlights

- Entirely volunteer project
- Focus on freeness
- Focus on stability
Debian highlights

Entirely volunteer project

Focus on freeness

Focus on stability

Erinn Clark and Martin Michlmayr, Debconf 4
Debian highlights

Easy to contribute

Not always easy to know where to start with!

Definitely not only for hard-core hackers
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Definitely not only for hard-core hackers

Andrew Mc Millan, Debconf 7
Debian highlights

Commitment to Free Software since the origins...

... making it easier to any random astronaut to create its derived work

Some old timers: Joey Hess, Jeff Licquia, Petter Reinholdstam, Ian Murdock, Konstantinos Margaritis, Debconf 4
Debian highlights

Commitment to Free Software since the origins...

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Mark Shuttleworth, Debconf 4
The samba packagers for Debian

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The clueful Debian developer. Gerente de lanzamiento de Ubuntu
The samba packagers for Debian

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The clueless Debian developer
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Legitimity from upstream
The samba packagers for Debian

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The German touch on bug triaging
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Christian Perrier

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CTDB wizard
The samba packagers for Debian

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Team newbie and our spy in the release team
Packages maintained by the team

Not only samba

Most related software:

- samba4 (Jelmer Vernooij)
- tdb (Jelmer Vernooij)
- talloc (Jelmer Vernooij)
- ldb (Jelmer Vernooij)
- tevent (Jelmer Vernooij)
- ctdb (Mathieu Parent)
- openchange (Jelmer Vernooij)
2 Debian development model
The Debian development model

**Stable**
- Clean and portable
- Free
- Easy to create derived work

**Outdated**
- Complicated package system
- Full of oversensitive GPL zealots
- Grumpy towards the success of some derivatives

bubulle's crew ()  Packaging Samba for Debian and derivatives  SambaXP 2009  10 / 61
The Debian development model

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# The Debian development model

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Debian release branches

Oldstable - Etch

- Released Jun 2007
- Supported for one year after the next version

Stable - Lenny

- Released Feb 2009
- Security and important fixes only

Testing - Squeeze

- The next stable release
- Planned end of 2010?
Debian development branches

**Unstable - Sid**

- Where development happens
- The testbed for testing and next release
- Packages automatically migrate to Testing when installable and non RC-buggy

**Experimental**

- For not releasable work
- No upgrade path guaranteed
Ubuntu release model

Long Term Support (LTS) versions

- Every 18 months - Supported for 3 years
- Dapper Drake: 3.0.22
- Hardy Heron: 3.0.28

Regular versions

- Every 6 months - Supported for 1.5 year
- Jaunty Jackalope: 3.3.2
- Intrepid Ibex: 3.2.3

Development versions

- The next release: snapshot from Debian unstable
- Karmic Koala: ?
Debian packages

Sources provided as original tarball + diff

- samba_3.3.2.orig.tar.gz: byte-per-byte upstream tarball
- samba_3.3.2-2.diff.gz: compressed diff with packaging specific stuff + patches

Binary packages (.deb)

- One or more binary package per source package
- Built from a specific Makefile: debian/rules
- Samba in Debian is 14 binary packages: samba samba-common samba-tools smbclient swat samba-doc samba-doc-pdf smbfs libpam-smbpass libsmbclient libsmbclient-dev winbind samba-dbgs libwbclient0
Debian packages

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3 Workflow for samba packaging
Dealing with new published versions

Far from a Debian release: upload ASAP to unstable

During Debian release freezes: upload to experimental

We need users to test Debian testing...

...but users have chosen Debian for stability
From Etch to Lenny and beyond...

Release of Etch

Stable (Etch)  3.0.24-6

Testing (Lenny)

Unstable (Sid)

Expérimental

Upstream
From Etch to Lenny and beyond...

Start Lenny development

- Stable (Etch) - 3.0.24-6
- Testing (Lenny) - 3.0.24-6
- Unstable (Sid)
- Expérimental
- Upstream
First upload to unstable

- Stable (Etch): 3.0.24-6
- Testing (Lenny): 3.0.24-6
- Unstable (Sid): 3.0.24-7
- Expérimental
- Upstream
From Etch to Lenny and beyond...

Transition to testing

Stable (Etch)  
3.0.24-6

Testing (Lenny)  
3.0.24-7

Unstable (Sid)  
3.0.24-7

Expérimental

Upstream
From Etch to Lenny and beyond...

Upstream development continues

- Stable (Etch): 3.0.24-6
- Testing (Lenny): 3.0.24-7
- Unstable (Sid): 3.0.24-7
- Expérimental
- Upstream: 3.0.25
From Etch to Lenny and beyond...

New upstream in unstable

- Stable (Etch): 3.0.24-6
- Testing (Lenny): 3.0.24-7
- Unstable (Sid): 3.0.25-1
- Expérimental: 3.0.25
From Etch to Lenny and beyond...

Security fixes to stable

- **Stable (Etch)**
  - 3.0.24-6etch1

- **Testing (Lenny)**
  - 3.0.24-7

- **Unstable (Sid)**
  - 3.0.25-1

- **Expérimental**
  - 3.0.25

- **Upstream**
  - Security patches
From Etch to Lenny and beyond...

New upstream prerelease

- **Stable (Etch)**: 3.0.24-etch1
- **Testing (Lenny)**: 3.0.25-1
- **Unstable (Sid)**: 3.0.25-1
- **Expérimental**
  - **Upstream**: 3.0.25
  - **3.2.0~pre1**
From Etch to Lenny and beyond...

New upstream prerelease to experimental

- **Stable (Etch)**: 3.0.24-etch1
- **Testing (Lenny)**: 3.0.25-1
- **Unstable (Sid)**: 3.0.25-1
- **Expérimental**: 3.2.0~pre1-1
- **Upstream**: 3.0.25, 3.2.0~pre1
From Etch to Lenny and beyond...

New upstream stable release

- **Stable** (Etch)
  - 3.0.24-etch1

- **Testing** (Lenny)
  - 3.0.25-1

- **Unstable** (Sid)
  - 3.0.25-1

- **Expérimental**
  - 3.2.0~pre1-1
  - 3.2.0~pre1

- **Upstream**
  - 3.0.26
From Etch to Lenny and beyond...

And the dance goes on...

- **Stable (Etch)**: 3.0.24-etch1
- **Testing (Lenny)**: 3.0.25-1
- **Unstable (Sid)**: 3.0.26-1
  - **Exérimental**: 3.0.26
  - **Upstream**: 3.2.0~pre1-1, 3.2.0~pre1
From Etch to Lenny and beyond...

And the dance goes on....

- **Stable (Etch)**
  - 3.0.24-etch1

- **Testing (Lenny)**
  - 3.0.25-1

- **Unstable (Sid)**
  - 3.0.26-2

- **Expérimental**
  - 3.2.0~pre1-1

- **Upstream**
  - 3.0.26
  - 3.2.0~pre1
From Etch to Lenny and beyond...

And the dance goes on.....

- **Stable (Etch)**: 3.0.24-etch1
- **Testing (Lenny)**: 3.0.26-2
- **Unstable (Sid)**: 3.0.26-3
- **Expérimental**: 3.2.0~pre1-1
- **Upstream**: 3.0.26, 3.2.0~pre1
From Etch to Lenny and beyond...

And the dance goes on......

- **Stable (Etch)**: 3.0.24-etch1
- **Testing (Lenny)**: 3.0.26-3
- **Unstable (Sid)**: 3.0.26-3
- **Expérimental**: 3.2.0-pre1-1
- **Upstream**: 3.0.26, 3.2.0-pre1
From Etch to Lenny and beyond...

Oh, new upstream branch!

- **Stable (Etch)**
  - 3.0.24-etch1

- **Testing (Lenny)**
  - 3.0.26-3

- **Unstable (Sid)**
  - 3.0.26-3

- **Expérimental**
  - 3.2.0~pre1-1

- **Upstream**
  - 3.0.26
  - 3.2.0
From Etch to Lenny and beyond...

Let's follow our beloved upstream

- **Stable (Etch)**
  - 3.0.24-etch1

- **Testing (Lenny)**
  - 3.0.26-3

- **Unstable (Sid)**
  - 3.2.0-1

- **Expérimental**
  - 3.0.26
  - 3.2.0
From Etch to Lenny and beyond...

Let's follow our beloved upstream.

- **Stable (Etch)**: 3.0.24-6etch1
- **Testing (Lenny)**: 3.0.26-3
- **Unstable (Sid)**: 3.2.1-1
- **Expérimental**
  - **Upstream**: 3.0.26
  - 3.2.1
From Etch to Lenny and beyond...

And testing is following too...

- **Stable (Etch)**: 3.0.24-6etch1
- **Testing (Lenny)**: 3.2.2-1
- **Unstable (Sid)**: 3.2.2-1
- **Expérimental**: 3.0.26
- **Upstream**: 3.2.2
From Etch to Lenny and beyond...

Meanwhile, stable gets security updates!

- Stable (Etch) → 3.0.24-etch10
- Testing (Lenny)
- Unstable (Sid)
- Expérimental
- Upstream

many security fixes

3.0.28

3.2.2-1

3.2.2-1

3.2.2
From Etch to Lenny and beyond...

Lenny is frozen - Status at freeze

Stable (Etch)
- 3.0.24-etch10

Testing (Lenny)
- 3.2.3-1

Unstable (Sid)
- 3.2.4-1

Expérimental
- something!

Upstream
- 3.2.4
From Etch to Lenny and beyond...

Lenny preparation - we seem to be ready!

- Stable (Etch): 3.0.24-etch10
- Testing (Lenny): 3.2.4.4
- Unstable (Sid): 3.2.4-4
- Expérimental: something!
- Upstream: 3.2.4
From Etch to Lenny and beyond...

Lenny preparation - Security fixes!!

Stable (Etch)
3.0.24-6etch10

Testing (Lenny)
3.2.4.4
Ask permission to release managers!

Unstable (Sid)
3.2.5-1

Expérimental

Upstream
something!
3.2.5
Finally ready for Lenny

- **Stable (Etch)**: 3.0.24-6etch10
- **Testing (Lenny)**: 3.2.5.4
- **Unstable (Sid)**: 3.2.5-4
- **Expérimental**: something!
- **Upstream**: 3.2.5
From Etch to Lenny and beyond...

New upstream, again!

- **Stable (Etch)**: 3.0.24-6etch10
- **Testing (Lenny)**: 3.2.5.4
- **Unstable (Sid)**: 3.2.5-4
- **Expérimental**
- **Upstream**: something! 3.2.6
From Etch to Lenny and beyond...

That one won't make it in Lenny

Stable (Etch)
3.0.24-6etch10

Testing (Lenny)
3.2.5.4

Unstable (Sid)
3.2.5-4

Expérimental
NEIN

Upstream
something!

3.2.6

JA
3.2.6-1
From Etch to Lenny and beyond...

And Samba life goes on...

- **Stable (Etch)**: 3.0.24-6etch10
- **Testing (Lenny)**: 3.2.5.4
- **Unstable (Sid)**: 3.2.5-4
- **Expérimental**: something!
- **Upstream**: 3.2.8, 3.3.0, 3.3.0-42
Finally, Lenny is released

- **Oldstable (Etch)**: 3.0.24-6etch10
- **Stable (Lenny)**: 3.2.5.4
- **Testing (Squeeze)**: 3.3.0-1492
- **Unstable (Sid)**
- **Expérimental**
- **Upstream**: something! 3.2.8 3.3.0
And the game continues...

Oldstable (Etch) → 3.0.24-6etch10

Stable (Lenny) → 3.2.5-4lenny1

Testing (Squeeze) → Important bugs fixed upstream

Unstable (Sid) → 3.3.1-1

Expérimental → something!

Upstream → 3.2.9

something!
From Etch to Lenny and beyond...

Current status of packages

- **Oldstable (Etch)**
  - 3.0.24-6etch10

- **Stable (Lenny)**
  - 3.2.5-4lenny2

- **Testing (Squeeze)**
  - 3.3.2-2

- **Unstable (Sid)**
  - 3.3.3-1

- **Expérimental**
  - 3.0.33

- **Upstream**
  - 3.2.10
  - 3.3.3
  - 3.4.*
<table>
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<th>Current packages - Official</th>
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<tr>
<td><strong>Etch (EOL: Feb 2010):</strong> 3.0.24-6etch10</td>
</tr>
<tr>
<td><strong>Lenny (EOL: End 2011?):</strong> 3.2.5-4lenny2</td>
</tr>
<tr>
<td><strong>Squeeze:</strong> 3.3.3-1</td>
</tr>
<tr>
<td><strong>Unstable:</strong> 3.3.3-1</td>
</tr>
</tbody>
</table>
Current packages - Backports.org

http://www.backports.org

Etch backports: 2:3.2.5-4 bpo41+1

  deb http://www.backports.org/debian etch-backports main contrib non-free

Lenny backports: 2:3.3.2-2 bpo50+1

  deb http://www.backports.org/debian lenny-backports main contrib non-free
Current packages - unofficial backports

General goal: provide each stable release with the latest samba

NO security support or multi-architecture

Etch: either 3.0.34 or 3.2.11

Lenny: 2:3.2.11-1 unoff50+1
Plans for the next Debian release

Current version: 2:3.3.3-1

Target: 3.4

Include ctdb support

Installation along with samba4 packages
Following upstream

Debian experimental

- Current version: ¡none¿
- Target: post-3.4 for the post-squeeze versions
- Release and test-build -pre and -rc versions as they’re published
Work involved in maintaining packages
Adapt samba to The Debian Way

General philosophy: change as little as possible

Changes live in debian/patches
Adapt samba to The Debian Way

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Adapt samba to The Debian Way

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Changes live in debian/patches
What do we change?

- adapt_machine_creation_script.patch
- autoconf.patch
- documentation.patch
- fhs-assignpaths.patch
- fhs-filepaths-debatable.patch
- fhs-filepaths.patch
- fix-manpages-warnings.patch
- installswat.sh.patch
- non-linux-ports.patch
- no-unnecessary-cups.patch
- pam-examples.patch
- proper-static-lib-linking.patch
- README_nosmbldap-tools.patch
- shrink-dead-code.patch
- smbclient-pager.patch
- smbpasswd-syslog.patch
- smbtar-bashism.patch
- swat-de.patch
- undefined-symbols.patch
- usershare.patch
- VERSION.patch
What do we REALLY change?

Default file locations (FHS)

- fhs-filepaths.patch
  - Mergeable upstream
  - Should be re-examined

- fhs-filepaths-debatable.patch
  - Introduces cachedir
  - Should be merged upstream in 3.4

- fhs-assignpaths.patch
  - Assign real paths to directories, those we can’t do with “–with-foodir”
    - codepagedir: /usr/share/samba instead of /usr/lib/samba
    - statedir: /var/lib/samba instead of /var/run/samba
    - cachedir: /var/cache/samba
    - swatdir: /usr/share/samba/swat
What do we REALLY change?

Documentation parts - Debian specific

- **adapt\_machine\_creation\_script.patch**
  - Adapt an example to Debian’s file layout
- **documentation.patch, pam-examples.patch**
  - Remove installation hints for self-compiled SWAT
  - Adapt paths references to Debian file layout
  - Drop mentions such as “alternative paths are...”
- **installswat.sh.patch**
  - install/remove Using Samba, which is provided separately
- **README\_nosmbldap-tools.patch**
  - Mention that smbldap-tools is packaged separately
- **usershare.patch**
  - Drop example usage advices that are not relevant for Debian
What do we REALLY change?

Compilation choices and design - Debian specific

- autoconf.patch
  - Avoid embarking autogenerated files in the Debian diff
  - Regenerated for each upstream version
- proper-static-lib-linking.patch
  - “Sane” library interdependencies with static and dynamic linking
- shrink-dead-code.patch
  - Avoid linking with unused code (talk with Steve Langasek!)
What do we REALLY change?

Various minor things - Debian specific

- smbclient-pager.patch
  - Use and hardcoded binary for pager if PAGER is undefined
- undefined-symbols.patch
  - Add -Wl,-z,defs to the libsmbcclient link options to prevent future instances of undefined symbols
- VERSION.patch
  - Add Debian as vendor in version suffix
What do we REALLY change?

Waiting for merge in Bugzilla

- no-unnecessary-cups.patch
  - Don’t try to contact CUPS when no printer are needed (#5525)

- non-linux-ports.patch
  - Meant to deal with our kFreeBSD and Hurd ports
  - Was meant to be merged upstream in 3.0.26 but apparently lost in the meantime (#?????)

- swat-de.patch
  - Updated German translation of swat (#????
  - A full localization update for SWAT is sleeping in Bugzilla
What do we REALLY change?

Remaining bits we could report upstream...or not

- fix-manpages-warnings.patch
  - Correct some harmless warnings in manpages that make our QA tools whine
- proper-static-lib-linking.patch
  - Sane library interdependencies with static and dynamic linking
- smbtar-bashism.patch
  - Drop a bashism in smbtar
Dealing with bugs reported in Debian

Ultimate goal: forward them all upstream

Challenge: reproduce with recent versions while users may be using older ones
Contacts and thanks

Contacts

- pkg-samba-maint@lists.alioth.debian.org
- svn://svn.debian.org/pkg-samba

Thanks

- SerNet for 8 years of SambaXP
- The Samba Team for 16 years of Samba
- Former Samba package maintainers for 14 years of Samba packages: Bruce Perens, Andrew Howell, Klee Dienes, Eloy A. Paris, Peter Eisentraut
- Tridge, Jerry Carter, then Karolin Seeger for great release management of Samba